

WHAT IS CLAIMED IS:

~~1. A method of selecting a filter for control of a gamut mapping correction process, including:~~

~~determining a filter selection metric in accordance with measured local image activity;~~

~~changing filter parameters as a function of the determined filter selection metric.~~

2. A method as described in **claim 1**, wherein said local image activity metric varies between low activity, corresponding to flat areas within an image, and high activity, corresponding to strong edge areas with an image.

3. A method as described in **claim 2**, wherein said image activity corresponds to a data norm of order p, given by

$$\text{Activity} = \left[\sum_j (e_i^p - e_j^p) \right]^{\frac{1}{p}}.$$

4. A method as described in **claim 2**, wherein said image activity corresponds to

$$\frac{1}{m} \left| \sum_j (e_i - e_j) \right|.$$

wherein e_i is a luminance error at a target pixel i and e_j is a luminance error at a pixel j within a neighborhood of pixel i , and m is the number of pixels in the neighborhood.

5. A method as derived in **claim 1** wherein said varied filter parameter is filter size in terms of pixels covered in a single operation thereof.

6. A method as derived in **claim 1**, wherein the filter selection metric and filter parameters are derived as follows:

computing said activity metric within a small pixel neighborhood neighborhood defined as $N_s \times N_s$

for activity metric values within a predetermined range of activity values, employing a relatively small filter size $S_1 \times S_1$

for activity metric values outside said predetermined range of activity, computing a activity metric a_l over a large pixel neighborhood $N_l \times N_l$
compute the ratio $R = a_l / a_s$

if R is greater than a predetermined threshold, employ a small filter size S_1

if R is less than the said threshold, employ a large filter size $S_2 \times S_2$.

7. A method as in **claim 6** wherein $N_s = 5$, $N_l = 15$, $S_1 = 5$, and $S_2 = 15$.